In the Claims

Claims 1-6 (Cancelled)

Claim 7 (Currently amended): A method for sequencing a polynucleotide, comprising the steps of:

(i) reacting ~~a~~ an isolated target polynucleotide with ~~a~~ an immobilised helicase enzyme or a primase enzyme, under conditions suitable for enzyme activity; ~~and~~

(ii) applying radiation to the reaction of step (i); and

(~~ii~~)(iii) detecting the interaction between the enzyme and the nucleotide on the target polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, the applied radiation that occurs during the interaction.

Claim 8 (Previously presented): The method, according to claim 7, wherein the radiation is electromagnetic.

Claim 9 (Previously presented): The method, according to claim 7, wherein step (ii) comprises using surface plasmon resonance.

Claim 10 (Previously presented): The method according to claim 7, wherein step (ii) comprises using nuclear magnetic resonance.

Claim 11 (Previously presented): The method, according to claim 8, wherein step (ii) comprises using surface plasmon resonance.

Claim 12 (Previously presented): The method, according to claim 8, wherein step (ii) comprises using nuclear magnetic resonance.

Claim 13 (Previously presented): The method according to claim 7, wherein the enzyme is immobilised on a solid support.

Claim 14 (Currently amended): A method for sequencing a polynucleotide, comprising the steps of:

(i) reacting ~~a~~ an isolated target polynucleotide with ~~a~~ an immobilized helicase enzyme and ~~a~~ an immobilized primase enzyme under conditions suitable for enzyme activity; ~~and~~

(ii) applying radiation to the reaction of step (i); and

~~(ii)~~(iii) detecting the interaction between the enzymes and the nucleotide on the target polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, the applied radiation that occurs during the interaction.

Claim 15 (Previously presented): The method, according to claim 14, wherein the radiation is electromagnetic.

Claim 16 (Previously presented): The method, according to claim 14, wherein step (ii) comprises using surface plasmon resonance.

Claim 17 (Previously presented): The method according to claim 14, wherein step (ii) comprises using nuclear magnetic resonance.

Claim 18 (Previously presented): The method, according to claim 15, wherein step (ii) comprises using surface plasmon resonance.

Claim 19 (Previously presented): The method, according to claim 15, wherein step (ii) comprises using nuclear magnetic resonance.

Claim 20 (Previously presented): The method according to claim 14, wherein the enzymes are immobilised on a solid support.

Claim 21 (Cancelled)

Claim 22 (Currently amended): A method for sequencing a polynucleotide, comprising the steps of:

(i) reacting a an isolated target polynucleotide with a an immobilized helicase enzyme under conditions suitable for enzyme activity; ~~and~~

(ii) applying radiation to the reaction of step (i); and

(~~ii~~)(iii) detecting the interaction between the helicase enzyme and the nucleotide on the target polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, the applied radiation that occurs during the interaction.